

**REMARKS**

Claims 1-25 are pending in the application. Of these claims, Claims 1, 8, 15 and 22 are independent claims. No new matter has been introduced by way of these remarks.

**Regarding 35 U.S.C. § 102(e) Rejection**

Claims 1-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Varghese et al. (U.S. Patent No. 6,011,795), hereafter “Varghese.”

Before discussing the cited references, a review of the Applicant’s disclosure may be helpful. In disclosed embodiments, a lookup table provides a longest prefix match for a search key longer than a lookup table’s mapper key. The lookup table performs a multi-level search in one or more mappers to receive a result value based on a successive portion of the search key provided as the mapper key. (*See* Specification, page 4, lines 23-28; Abstract.) The lookup table is then searched in multiple passes with successive portions of the search key until the result value is found. (*See* Specification, page 8, lines 13-25; Abstract.)

More specifically, the lookup table 100 only includes four mappers 206a-d. Where more than four search levels are required, a pointer selector is used to determine what portion of the search key is required. For example, in Fig. 3B seven search levels are required to search for the route index corresponding to host node h2 in mapper level\_7. Thus, after a first search of nodes in levels 1-4 114a-d in mappers 206a-d, a further search for a route entry or subtree entry for level\_5 stored in mapper 206b is performed. L1 pointer selector 212 determines whether the search of mapper 206b is being performed for a node in mapper level\_5 or a node in mapper level\_2 node dependent on the command forwarded on the command bus 112 (Fig. 2, page 11, line 25 – page 12, line 3). Therefore, the lookup may be performed based on a partial index feedback loop by which a mapper is indexed in multiple passes, e.g., level\_2 and level\_5, with multiple successive portions of the search key.

In contrast, the cited reference, Varghese, is directed to a method and apparatus for performing a single lookup faster by reducing the number of distinct prefix lengths to be considered in a lookup table. (*See* col. 7, lines 58 – 60.) For example, in Fig. 9 of Varghese a specified stride length of three bits is shown. After setting a specified stride length, the process looks to the first three bits of an array (e.g., 101). The first three bits of this array reference a

pointer that corresponds to a second trie node. At the second trie node, a valid prefix in the node is found, e.g., P4. Since there are no additional nodes, in this example, the best corresponding node is P4. (See col. 9, lines 20-45.) In this way, Varghese merely provides a lookup of bits in an array that, using a single lookup (a single pass), provides a corresponding node, i.e. a trie node. Varghese does not, however, disclose use of a partial index feedback loop to index a mapper in multiple passes of portions of a search key as claimed by Applicant in Claim 1 (“... *a partial index feedback loop by which a mapper is indexed in multiple passes with multiple successive portions of the search key.* ...”) Accordingly, Applicant submits that Claim 1 is patentably distinguished over Varghese and is in allowable form.

Independent Claims 8, 15 and 22 have similar limitations, and therefore, should be allowed for at least the same reason over Varghese under 35 U.S.C. 102(e).

Claims 2-7 are dependent on independent Claim 1, Claims 9-14 are dependent on independent Claim 8, Claims 16-21 are dependent on independent Claim 15 and Claims 23-25 are dependent of independent Claim 22. Accordingly, these dependent claims should be found in allowable condition for at least the same reasons as stated above.

Accordingly, the rejections under 35 U.S.C. 102(e) as being anticipated by Varghese are believed to be overcome.

**CONCLUSION**

In view of the above amendments and remarks, it is believed that all claims (Claims 1-25) are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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